

WHAT IS CLAIMED IS:

1. A method for remotely monitoring the operation of at least one turbine, the turbine in an operating location, the method comprising:

inputting input data from the turbine;

processing the input data to generate verified performance data, the processing including determining validity of the input data and performing at least one calculation on the input data, which is valid, to generate the verified performance data; and

generating a collection of stored data in a database based on at least one of the input data and the verified performance data.
2. The method of claim 1, wherein the step of processing the input data to generate verified performance data includes determining if input data is available.
3. The method of claim 1, wherein the step of processing the input data to generate verified performance data includes at least one of range checks and cross comparisons on the input data.
4. The method of claim 1, wherein generating a collection of stored data in a database based on at least one of the input data and the verified performance data includes generating the collection of stored data based only on the input data, if the input data is determined to be not valid.
5. The method of claim 1, wherein generating a collection of stored data in a database based on at least one of the input data and the verified performance data includes generating the collection of stored data based on the input data and the performance data, if the input data is determined to be valid.

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6. The method of claim 1, wherein processing the input data to generate verified performance data includes:

processing the input data to determine calculated performance data; and
determining the validity of the calculated performance data; and
designating valid calculated performance data as verified performance data.

7. The method of claim 6, wherein determining the validity of the calculated performance data includes performing range checks and cross comparisons on the calculated performance data.

8. The method of claim 6, wherein determining the validity of the calculated performance data includes determining a base load condition of the turbine.

9. The method of claim 6, wherein determining the validity of the calculated performance data includes determining a steady state condition of the turbine.

10. The method of claim 1, wherein processing the input data to generate verified performance data includes calculating an average daily performance of the turbine.

11. The method of claim 1, wherein the at least one turbine is at least one gas turbine.

12. The method of claim 1, wherein the at least one turbine is a plurality of turbines.

13. The method of claim 12, wherein at least one of the input data and the verified performance data are standardized for each of the plurality of turbines.

14. The method of claim 1, wherein the step of processing the input data to generate verified performance data includes stopping the processing once input data or processed data, which is obtained from the input data, is determined to be invalid; and

wherein generating a collection of stored data includes displaying at least one of the input data and the verified performance data that is obtained prior to the stopping.

15. The method of claim 1, wherein the processing the input data to generate verified performance data includes:

determining an invalidity of a first utilized calculation;
determining the validity of a second utilized calculation; and
using the second calculation in substitution for the first utilized calculation to generate the verified performance data.

16. A system for remotely monitoring the operation of at least one turbine, the turbine in an operating location, the system comprising:

a database for inputting input data from the turbine;
a processing system that processes the input data to generate verified performance data, the processing system including:
a data validation portion that determines validity of the input data;
a calculation engine that performs at least one calculation on the input data, which is valid, to generate the verified performance data; and
a presentation portion that accesses a data storage portion to display a collection of stored data that is stored in the data storage portion, wherein the stored data is based on at least one of the input data and the verified performance data.

17. The system of claim 16, wherein the data validation portion performs at least one of range checks and cross comparisons on the input data.

18. The system of claim 16, wherein the at least one turbine is at least one gas turbine.

19. The system of claim 16, wherein the processing system stops processing once the input data or processed data, which is obtained from the input data, is determined to be invalid;
and

the presentation portion displays at least one of the input data and the verified performance data that is obtained prior to the stopping.

20. The system of claim 16, wherein the processing portion:
determines an invalidity of a first utilized calculation;
determines the validity of a second utilized calculation; and
wherein the calculation engine uses the second calculation in substitution for the first utilized calculation to generate the verified performance data.

21. A system for remotely monitoring the operation of at least one turbine, the turbine in an operating location, the system comprising:

means for inputting input data from the turbine;
means for processing the input data to generate verified performance data, the means for processing determining validity of the input data and performing at least one calculation on the input data, which is valid, to generate the verified performance data; and
means for generating a collection of stored data in a database based on at least one of the input data and the verified performance data.

22. A method for remotely monitoring the operation of at least one gas turbine, the gas turbine in an operating location, the method comprising:

inputting input data from the gas turbine;
processing the input data to generate verified performance data, the processing including determining validity of the input data and performing at least one calculation on the input data, which is valid, to generate the verified performance data; and
generating a collection of stored data in a database based on at least one of the input data and the verified performance data; and

wherein determining the validity of the calculated performance data includes determining a base load condition of the turbine;

wherein determining the validity of the calculated performance data includes determining a steady state condition of the turbine;

wherein the step of processing the input data to generate verified performance data includes stopping the processing once input data or processed data, which is obtained from the input data, is determined to be invalid; and

generating a collection of stored data includes displaying at least one of the input data and the verified performance data that is obtained prior to the stopping; and

wherein the processing the input data to generate verified performance data further includes:

determining an invalidity of a first utilized calculation;

determining the validity of a second utilized calculation; and

using the second calculation in substitution for the first utilized calculation to generate the verified performance data.

23. An automated system for remotely monitoring the operation of at least one gas turbine, the gas turbine in an operating location, the system comprising:

a database for inputting input data from the turbine;

a processing system that processes the input data to generate verified performance data, the processing system including:

a data validation portion that determines validity of the input data, the data validation portion performs at least one of range checks and cross comparisons on the input data;

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a calculation engine that performs at least one calculation on the input data, which is valid, to generate the verified performance data; and

a presentation portion that accesses a data storage portion to display a collection of stored data that is stored in the data storage portion, wherein the stored data is based on at least one of the input data and the verified performance data; and

wherein the processing system stops processing once the input data or processed data, which is obtained from the input data, is determined to be invalid; and

the presentation portion displays at least one of the input data and the verified performance data that is obtained prior to the stopping; and

wherein the processing portion:

determines an invalidity of a first utilized calculation;

determines the validity of a second utilized calculation; and

wherein the calculation engine uses the second calculation in substitution for the first utilized calculation to generate the verified performance data.

24. A system for remotely monitoring the operation of at least one gas turbine, the gas turbine in an operating location, the system comprising:

means for inputting input data from the gas turbine;

means for processing the input data to generate verified performance data, the means for processing determining validity of the input data and performing at least one calculation on the input data, which is valid, to generate the verified performance data; and

means for generating a collection of stored data in a database based on at least one of the input data and the verified performance data; and

wherein the means for determining the validity of the calculated performance data determines a base load condition of the turbine;

wherein the means for determining the validity of the calculated performance data determines a steady state condition of the turbine;

wherein the means for processing the input data to generate verified performance data stops the processing once input data or processed data, which is obtained from the input data, is determined to be invalid; and

the means for generating a collection of stored data displays at least one of the input data and the verified performance data that is obtained prior to the stopping; and

wherein the means for processing the input data to generate verified performance data:

determines an invalidity of a first utilized calculation;

determines the validity of a second utilized calculation; and

uses the second calculation in substitution for the first utilized calculation to generate the verified performance data.

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